

# THE AMERICAN JOURNAL OF PHARMACY

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## THE WRITING OF A THESIS.

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Most ideas, as well as most words, have gradually in the course of time changed their original meaning; have, as we say, become modernized or brought up to date. As our views and knowledge of any subject become more and more extensive, we change them, and at any given time their generally interpreted and understood meaning represents the sum of all the knowledge that has been gained up to that time. Because we once thought the earth flat; lightning, the manifestation of the devil; earth, air, fire and water the four elements, is no reason why we should do so to-day, when knowledge obtained since the days in which the poor unfortunates who so believed lived has shown us that they were wrong. The subject of my paper, the word "Thesis," has in a similar way undergone somewhat of a change since the days of Martin Luther and his contemporaries. Those strenuous lights of the Middle Ages regarded a thesis as the height of their ambition, and any one who could establish a thesis and maintain it in the face of the enemy was a made man. While we have strenuous men nowadays, and we do things strenuously to a greater extent probably than they did even at the time of that immortal Henry, who defied State, Church and the Devil, to prevent him from doing just whatever his whim dictated, even to the extent of changing wives several times a month, still, when it comes to a thesis, we are only satellites of a very small magnitude as compared with the author of the Reformation, or the great reformers of Wittenberg or Geneva. The word "thesis" is derived

from the Greek *θέσις*, a proposition or statement derived in turn from the Greek verb *τιθέναι*, to put or set, meaning hence something put or set up for others to knock down if they can. While many of our theses of to-day are statements, that is about all they are, and, unfortunately, mostly such statements, that while they have been set up neatly on vellum or high-grade bond paper do not always have a good bottom and are easily knocked down. When our friend Martin Luther did set up a proposition, this, like himself, had a good broad sturdy basis, and seldom received a knockout block or was removed from its everlasting seat. The reputation of the author of these theses was at stake when it was put, and if he failed to defend it against all comers, he was no longer in demand as a corporation lawyer or probable member of the cabinet, but was relegated to the rear, among the lesser lights. This strenuous view of the thesis has been in vogue in Germany to a more or less extent ever since the day when the celebrated inkstand sped on its course against the wall of the Wartburg in the vain effort to knock out the individual who was preventing the then thesis from obtaining a firm stand on its pins, which individual, we have been led to believe by tradition, was no less than his Satanic Majesty himself. When the celebrated Woehler maintained his thesis before the philosophical faculty of the University of Heidelberg, he appeared on the scene with sword and buckler, and was prepared to defend the truth of the same before the entire faculty and any one else who happened in to question it. Even to-day it is customary in many German universities for the prospective graduate in philosophy to appear on the scene with a sword, even if he never had one in his hand before in his life, and defend with his tongue the proposition which he had laid down in the thesis, hoping presumably to call on the sword in case his tongue failed him or some one else had a better tongue. The main point to be brought out in this connection is that the proposition or thesis propounded had to be an original idea—something new. Unfortunately, most theses submitted to faculties of pharmacy nowadays do not live up to the old German ideal—they do not contain anything new. To the credit of the students be it said, however, that their theses do not contain new ideas or new facts because their teachers do not make it an essential part of their thesis; and they don't make it an essential part of their thesis because they don't take or have the time to teach the student how to get out some-

thing new. While I grant that it is no easy matter for a professor to suggest some line of work or subject that will yield something new to each of a class of 100 students, still, I believe it could be done, and I sincerely hope that it will soon be done. We all know that in the good old days of Liebig and Scheele, chemistry and pharmacy were about equally advanced; in fact, pharmacy had most probably the lead, for the only way Liebig could get some chemistry at first was in a pharmacy. But gradually the teachers of chemistry got their students to get out new facts and ideas in their theses, and gradually the interest in the work and the number of the theses grew until they ran into the thousands. From these thousands of facts of past theses the great science of chemistry has been evolved. While all this was going on in chemical colleges and schools, poor pharmacy was running along in the same grooves as of yore; and her sons, while they were also writing theses, did not have such energetic and hard-working teachers, and did not evolve but few new facts. Their theses were collaborations, mere well-written collections of what others had done, said or thought, and only here and there a few contained original investigation, original thought and new facts. We are reaping to-day the fruits that our pharmaceutical forefathers sowed, and we write to-day principally literary effusions, rhetorical efforts, containing beautifully worded and more or less beautifully written accounts of what the great men of pharmacy have done, usually spread out over as many pages as possible. One single new fact, one single new method, one single new compound, one single new idea, using only a single line, is worth more ten times, yea, a hundred times more, than all the calligraphy, rhetoric and diction you can crowd into a folio-volume. Think of the tremendous advances that pharmacy would have made during these hundred years if she had had a Liebig to set her the example of how new facts should be worked out, and, above all, that no one was worthy of a diploma until he had learned how to evolve new facts, learned how to investigate the unknown. We all know how very far Germany is ahead of all the rest of the world in chemistry to-day, but perhaps all do not know that she occupies that exalted and enviable position solely because her students, her candidates for degrees, were taught how to evolve new facts, how to delve into the unknown and lead the bright light of day into those

unknown mazes. The result is that more chemical facts have been brought to light in one week, in chemistry, in Germany, than in a year in most other countries. Independently entirely of the benefit to science and the world at large that each and every such fact entails, there is the engendered delight, enthusiasm and pleasure that follows the discovery of something new. No one who has ever discovered a new substance, method or fact can realize the innate delight which such a discovery produces in the discoverer; and with this delight there follows also the desire to discover more facts, work out more problems, benefit mankind by more discoveries. This pleasure cannot be described; it must be felt to be appreciated. If you will read the life or the correspondence of any of the great pioneers in the domain of chemical discovery, you will have engrafted into your brain, aye, into your very bone and marrow, some of this divine fire and enthusiasm, but even that bears only a slight semblance to the genuine delight felt upon seeing before you in your test-tube, beaker or flask your first-born chemical or pharmaceutical child. I can well recall my own experience in this line when, during an examination of that sweet substance, saccharin, which had been discovered not long before in the laboratory where I worked, I obtained the original substance of which it is a derivative, and which had never been seen or obtained by any mortal before. When, in addition to this, on the succeeding day—and I did not sleep much during that memorable night—I succeeded in obtaining the first anhydrid of an ortho-sulphocarbonic acid, a substance not supposed to be obtainable at the time, my cup was full to overflowing, and I would not have exchanged places with a king. I can well remember the exultant and beaming countenance of my teacher when together he and I held in our hand the beautifully crystalline rhombohedra of that anhydrid. Even though he had in his experience seen the birth of many and many a hundred substances, still the pleasure of this additional discovery was probably as great as any of the others, notably because it was so unexpected. While every one cannot be a Liebig, a Hofmann or a Remsen, still, every one can add his little mite to help develop the great science in which we are all interested. When you are going to write your thesis—and of course all of you who are students will do so—bear in mind the fact that what is worth doing is worth doing well; and the way to do a thesis well is to make it leave its impress upon the



development of pharmacy. Let it contain at least one new fact, and, if possible, several.

In writing a thesis, the first thing is to have your facts well established by experiment, the work producing the same having been mapped out for you or by you in advance. This is, of course, primarily, the principal work and value of the thesis, and for most students this work must be mapped out by their teachers. There are plenty of facts to be established and plenty of work to do, for you can take up almost any drug used to-day and find several chapters in its history concerning which we are totally in the dark. Thus, take so simple a drug as aloes. We know it contains aloin, but we do not know what aloin is, and we have no positive data as to the amount of aloin the various varieties of aloes contain, nor the difference between their respective aloins. We know it contains about 13 per cent. of resin, 10 per cent. of water and 63 per cent. of water-soluble substances, but we do not know what the latter are. We know that the resin of Barbadoes or Curacao Aloes is Aloresinotannol cinnamate, but we do not know if it is as efficient as aloin, and we should know it, for we discard it in the manufacture of aloin. Here in Aloes alone, we see at least four fruitful subjects for theses. Take Belladonna, Stramonium, Scopolia and Hyoscyamus. We know they contain several alkaloids, and in assaying them we always determine the total alkaloids they contain. A beautiful and valuable thesis would be to isolate from several samples of each their alkaloids, and determine just which are contained in each drug and their relative amounts. This can be done quite readily, and I should like to see one of my hearers undertake it. Again, take Capsicum, commonly known to students as "hot stuff;" we know little about it save that it is hot and that it contains an oleo-resin, but we know that this is not a pure substance but a mixture. A crystalline substance called Capsaicin has been obtained, and it is claimed to be the burning principle; but we don't know how much it contains, and to what extent it is contained in the different kinds of capsicum on the market. And, so on, I might mention dozens and dozens of fruitful topics for theses, and theses that would reflect credit upon their writers. In writing your thesis, it is desirable to begin by giving a careful and exhaustive résumé of all work that has previously been done upon your subject, giving names and references to the literature. In order to do this you must be familiar

with all the standard works upon pharmacy, and with the leading journals, notably the foreign ones, for but little original work is or has been found in our American pharmaceutical journals. Among such I would mention: *Jahresbericht der Pharmacie*, which gives annually all the work done in pharmacy during the preceding year; Hager's *Handbuch der Pharmaceutischen Praxis*, Husemann and Hilger's *Die Pflanzenstoffe*, Flückiger's *Pharmacognosie des Pflanzenreiches*, Arthur Meyer's *Drogenkunde*, and among the journals, AMERICAN JOURNAL OF PHARMACY, *Archiv der Pharmacie*, *Apotheker Zeitung*, *Chemiker Zeitung*, *Pharmaceutische Centralhalle*, *Pharmaceutical Journal and Transactions*, *Berichte der Deutschen Pharmaceutischen Gesellschaft*, *Proceedings of the American Pharmaceutical Association*, *Pharmaceutical Review and Archives*, *Druggists Circular*, and others. After your careful preliminary history of the work done on your subject, begin a description of your own work, and with it the figures and results you obtained, and your conclusions you have deduced therefrom. Very frequently you can get some good points from the dispensaries, and when you are at a loss what to do next, or how to get at some information you need, ask your instructor, or write to such men as Prof. J. U. Lloyd, Prof. Fred. Hoffmann or Prof. Fred. B. Power, who have large libraries and can often help you and will be glad to do so; or drop me a line, and I will gladly do what I can to assist you in your laudable effort to write a thesis that is a thesis, and that will reflect credit upon you, your illustrious Faculty and your grand old Alma Mater.

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## THE APPRENTICE OF FORMER DAYS.

A Reminiscence.

BY WILLIAM MCINTYRE.

A very interesting part of the recent meeting of the American Pharmaceutical Association was the historical pharmaceutical exhibition and the recital of methods current in the drug store of fifty years ago.

I am sure the men of that period have left an impress upon the present, and it may be permissible to present a few thoughts along lines of a later date, even if it may be somewhat personal.

I began my apprenticeship in 1859, when, in consideration of some slight attainment in Latin and chemistry, my yearly pay was to be

higher than usual, so that while before my preceptor had paid in addition to board and lodging with his family, twenty-five dollars per annum, I was to receive thirty, my lecture tickets at the Philadelphia College of Pharmacy and an increase of five dollars each year. And, as if to emphasize a satisfactory completion of the term, the good wife of my employer offered to furnish a certificate, saying to any lady I might select, "that I could polish the stair-rods, tack down the carpets and smile at the end of the job."

The store afforded ample opportunity for practical work. Gas was dear, and I was sent to bed so that I could open up early in the morning. I must admit a little deception—the student lamp was a small affair and its light easily hid. A mixture of alcohol and turpentine, known as burning fluid, was the fuel. My habit was to rewrite my notes and look up any not well understood part of the lecture.

The value of drug store laboratory experience was well illustrated by a remark made by my preceptor, after I had engaged in business on my own account. Visiting me during a recovery by distillation from an alcoholic percolate, "Why," said he, "if I had done that during all my business career I would have been a rich man." Alcohol which had been selling for about 40 cents had, owing to the war tax, been advanced to \$1.90 per gallon.

I graduated in 1863, and shall always account Professors Bridges, Thomas and Procter more than teachers—friends never to be forgotten—whose enthusiasm made up for the better facilities now afforded.

Professor Procter impressed our minds with his individuality and made the most lasting impressions; and in so far as we druggists were transformed into pharmacists, the responsibility is his.

He gave us the thought that pharmacy would eventually reach the professional stage. This was ever a pleasant day dream for which a place in our hearts was always reserved, and now when I recall the years spent in sailing this high ideal of a pharmacist's duty, a look backward causes no regrets.

Upon one occasion Procter said to me: "Young man, your physical appearance indicates too close attention to business," and suggested a change in surroundings and the probable healthful pleasure and benefit of attendance upon the meetings of the American Pharmaceutical Association. The next week found me in St. Louis

(thirty-one years ago), and I have reason to be thankful that I followed his advice. It was like the German wander year—a new world was opened to me, and the meetings are now an ever-recurring source of healthful pleasure and profit.

What obligations we owe to John M. Maisch—"er war ein guter deutscher Mann,"—and the many other willing workers who have labored for our good in the social and scientific meetings of this College! The necessity of keeping up with the valuable and valuable suggestions of an extended pharmaceutical horizon is very great, and few indeed are fortunate in being beyond the necessity of asking for information; and here has been the opportunity of meeting men of strong mind, with knowledge and experience, and by the discussions get a better understanding of many subjects and be thus able to apply with skill ideas in every-day store life.

I believe every drug store is just as the owner makes it. A model pharmacist believes in his right to succeed and will attend the meetings of his State and National Associations. He will keep really desirable and attractive goods of the sort the people want, sell them at a moderate profit, advertise, and attend to his own business and not be concerned about that of his neighbor, no matter how great a competitor he may be.

I have so far been able to maintain a drug store without soda water and ice cream, female pills and appliances with advertisements designed to deceive no one, exercise due caution in the sale of poisons and narcotics, content with a limited business, the responsible part of which was done at highest pay to fully equipped assistants and the merchandise part by intelligent help who did not attempt in other directions.

If "pro bono publico" I was expected to destroy the character of my store and convert it into an office for newspaper advertisements, express and other like business, my not doing so may have been a business mistake which I have survived.

Where are we now? is perhaps the question. The aggression of the large manufacturing pharmacists with assayed and physiologically tested drugs and serums, the increased number of proprietary and trade-marked articles and the introduction of a newer materia medica seem to give thought to what has been said by one who has had experience as a teacher in a college of pharmacy, followed by time spent in a pharmaceutical laboratory—his judgment



being that the colleges were about five years behind the manufacturer.

A look at some of the well-sanded writing of a few invoices purchased in my first years of business will remind one of many changes in the character of goods now stocked.

The drug store of early days was well described by Daniel Robbins (McK. & R.) who said: "His experience was, the druggist who sold the most paint usually bought the best drugs for use in his prescription department."

Centennial year was great in that the people were made aware of what a really great nation this is, and individual responsibility was set forth in highest terms. Dr. Frederick Hoffmann improved the opportunity and agitated the proprietary medicine question and helped the druggists begin aggressive work with the public to correct the false impression of their alleged curative powers and dispel the assurance that natural death would, as it were, become impossible unless incurred by violence or failure to employ the proper nostrum. Druggists under his advice issued "Popular Health Almanacs." Publish the formula by law, was urged. A distinguished member of the American Pharmaceutical Association, Mr. Samuel Colcord, set this method at rest. Let me say, "just so long as the Donald Kennedys go scouring the hills of New England and discover plants that never grew, so long will it be impossible to look for curtailment." From the hills let us take to the swamps and see how true this is just now.

The accepted thought of to-day seems to be that secret formulas between physicians and pharmacists are particularly to be discountenanced; and as to proprietary articles, even the pharmacy laws are made so as not to curtail the right to their indefinite production.

A member of the New York Board of Trade, Drug Section, has said: "It is the business of the retail druggist to retail drugs." However I may differ from this statement, I am, nevertheless, confronted with the condition of difficulty in doing anything else. And when I see one of my friends on his bicycle, he having gathered up several pounds of absorbent cotton for a hurried quantity sale, I am sure others labor under like difficulties, and can join in the sentiment of an observer, who said: "Mister, thee needs a wheelbarrow!"

Pending the struggle between ethical pharmacy and the business

interests which require so many of the goods usually found in the drug store to be sold regardless of the profitable or unprofitable character of the sale, it does seem as if we are on the verge of a new and enlarged order of things based upon modern business methods. And with the confidence I have in the intelligence and business integrity of my fellow pharmacists, it is but natural that I lean to the side of mutual business dependency and financial co-operation, and can see many reasons why the money of the retail druggist, when fortified by the good qualities of its owner, can be thus honorably and profitably employed. And in these days when commercial grab in the disguise of commercial enterprise seems to have so large a sway, may we at least hope that pharmaceutical training will exert itself and control the future situation.

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## AFTER-THOUGHTS OF THE HISTORICAL EXHIBITION OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

BY M. I. WILBERT,

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The historical exhibition, that was held in connection with the semi-centennial anniversary of the American Pharmaceutical Association, was a most interesting object-lesson of the marvelous progress made in ethical pharmacy during the past century.

It was especially pleasing that the committee having the exhibition in charge succeeded in getting together such a large number of photographs and portraits of the pioneers and leaders in the pharmaceutical profession.

Looking back over the miscellaneous and highly interesting collection of relics and curios that were to be found in the various cases, it is particularly noticeable how intimately these curios were connected with the lifework of the men whose portraits were shown in another portion of the room. It would be difficult, indeed, to think of one portion of the exhibit without thinking of the other.

Perhaps the most valuable display, and the one that, to the writer at least, appeared to be the binding link between the relics on the one hand and the portraits on the other, was the collection of pharmaceutical literature shown by the Philadelphia College of Pharmacy.

Among this great collection of interesting material, a complete file of the **AMERICAN JOURNAL OF PHARMACY** was without question the most valuable, embodying as it does a very complete and reliable account of the gradual development of professional pharmacy in this country.

It was particularly appropriate that at this, the Fiftieth Annual Meeting of the American Pharmaceutical Association, a scheme was proposed to look up and perpetuate the history of pharmaceutical development. That this will ultimately become a most interesting and valuable department of the work of the Association is evidenced from the mass of material that was shown at this exhibition. It was also especially fitting that this innovation should have been instituted in Philadelphia, the home of the pioneers and leaders of ethical pharmacy, the cradle of the first school devoted to pharmaceutical education in this country, and the first meeting-place of the Association that has been and no doubt will continue to be an important factor in the growth and development of pharmacy along professional lines. In this connection a review of some of the more interesting data, connected with a number of pharmacists and teachers whose portraits were on exhibition, might not be out of place.

Among the photographs and portraits that were shown on the walls of this exhibition none recalls a more touching and pathetic story than does that of Charles Marshall, one of the founders, and the first president of the Philadelphia College of Pharmacy. Born in Philadelphia, April 27, 1747, he was at an early date associated with his father, Christopher Marshall, in the latter's drug store on Chestnut Street above Second.

The inventory of Christopher Marshall's property, on its division in 1772, among the two sons, Charles and Christopher, Jr., was one of the more interesting of the old account books displayed in the exhibition.

From accounts in the **AMERICAN JOURNAL OF PHARMACY**, it appears that Charles Marshall continued the business for some years by himself, and then associated with him his son, Charles Marshall, Jr. In the early years of the last century, the business, from a combination of circumstances, met with reverses, and the firm failed. This failure came when Charles Marshall had passed the zenith of his activity, so that he was apparently confronted by ruin and poverty

in the closing years of his life. It is at this stage that we meet with the pleasing story of heroism and self-sacrifice on the part of Charles Marshall's daughter Elizabeth.

This estimable maiden took hold of the shattered business and by dint of hard work and strict attention to the petty and sometimes annoying details not only reconstructed the business so as to insure a livelihood for the family, but ultimately regained for them a position of comparative independence.

Many of the men, who have been active in the development of pharmacy in this country, owed much of their early training to the watchful care of this early and eminently successful woman pharmacist. Among these was Charles Ellis, whom we will have occasion to mention later.

While the management of the business affairs appears to have been placed entirely in the hands of the daughter, the father, Charles Marshall, took an active interest in the professional development of pharmacy. Despite his advanced years he took a lively interest in the organization of the College of Apothecaries. This active interest in matters of common good no doubt accounts for the words of high admiration with which he was frequently spoken of by his contemporaries.

Near the portrait of this interesting personage was that of another equally as important. Daniel B. Smith, the third president of the Philadelphia College of Pharmacy and the first president of the American Pharmaceutical Association, was born in Philadelphia, July 14, 1792. The varied and valuable services that he accomplished for the development of pharmacy have never received adequate recognition. He was one of the original members of the College, attended the first meeting in Carpenters' Hall, February 23, 1821, and was a member of the committee appointed at that meeting to consider ways and means of a thorough organization of all apothecaries. He was the first secretary of the College and subsequently was the moving spirit in the inauguration of the *AMERICAN JOURNAL OF PHARMACY*, of which he was the first editor as well as chairman of the Publication Committee. He also contributed many timely and interesting articles, the first article in the first number, "Epsom Salts and Magnesia," being from his pen.

Daniel B. Smith, after serving twenty-five years as president of the College, tiding it over the most trying period of its existence,



retired to spend his remaining days in the seclusion of his family circle. He died, March 29, 1883, in his ninety-first year. Besides being a pharmacist of more than ordinary ability and scientific training and attainments, he managed to infuse a considerable amount of his enthusiasm and knowledge into his contemporaries. Dr. Geo. B. Wood, in 1860, said of him that "he was without an equal among the apothecaries of his time, in scientific and literary attainments. It was largely due to the encouragement that he extended to the younger men that pharmacy has been able to reach its present development."

Two other portraits of men active in the early days of American pharmacy were to be found side by side—those of Wood and Bache, names that are still familiar throughout the length and breadth of the United States.

Franklin Bache, M.D., was born in Philadelphia in 1792. He was the editor of the first official U.S.P., published in Boston, in 1820. He was professor of chemistry in the Philadelphia College of Pharmacy from 1831 to 1841 and later was connected with Jefferson Medical College. His habits of accuracy and his attention to minor details enabled him to contribute much valuable material to the first edition of the United States Dispensatory, which appeared in 1833. Dr. Bache died in Philadelphia, March 19, 1864. His friend and associate, Geo. B. Wood, M.D., LL.D., was professor of chemistry in the Philadelphia College of Pharmacy, from 1822 to 1831, and Professor of Materia Medica, from 1831 to 1835, when he resigned to become a member of the medical faculty of the University of Pennsylvania.

He was the originator of the United States Dispensatory, which has always held a foremost place on the shelves of the pharmacist as a book of information and reference. Dr. Wood died in Philadelphia, March 30, 1879, at the advanced age of eighty-two. A contemporary, in speaking of his work in connection with Dr. Bache, said: "Their names will always occupy one of the most prominent places in the history of pharmacy."

While Philadelphia was foremost in establishing a school of Pharmacy, it was the Maryland College of Pharmacy that first considered the "theory and practice of pharmacy" worthy of a separate chair. It was particularly fitting therefore that the Maryland College of Pharmacy should send a picture of Thomas G. Mackenzie, the

first professor of pharmacy in that institution. This pioneer in theoretical instruction was in the apothecary business for nearly half a century, and occupied the chair of Pharmacy in the Maryland College from 1841 to 1847. He died in Baltimore, May 6, 1873, at the age of seventy-one.

The Philadelphia College soon recognized the importance of separate instruction in theoretical pharmacy, and appointed as its professor no less eminent a man than Wm. Procter, Jr. This noble individual, who is usually referred to as "the Father of American Pharmacy," was born in the city of Baltimore, May 3, 1817. He graduated from the Philadelphia College in 1837 and became a member of the College in 1840. The chair of "Theoretical and Practical Pharmacy" was instituted in 1846 and Mr. Procter was unanimously chosen to fill the same. He occupied the chair continuously for twenty years, and then, thinking that he had done his share of work for professional advancement, insisted on retiring. On the death of Prof. Edward Parrish, in 1872, a unanimous request of the Board of Trustees induced Professor Procter to resume his teaching, which he did, continuing to his death in 1874.

Professor Procter with Charles Ellis and Alfred B. Taylor constituted the delegation sent by the Philadelphia College of Pharmacy to the meeting in New York, in 1851, from which originated the American Pharmaceutical Association. Mr. Procter was always an active member of that Association and regularly attended its meetings. Closely associated with Professor Procter in much of his work was Charles Ellis, at one time apprentice in the store of Elizabeth Marshall and the subsequent proprietor of the same. For more than fifty years Mr. Ellis was active in the affairs of the College, nearly forty of which were in an official capacity. For fifteen years he was president of the College, succeeding Daniel B. Smith. He was a liberal contributor to the *AMERICAN JOURNAL OF PHARMACY* and served forty-two years on the publishing committee.

Another interesting personage of this period was Dr. Robert Bridges, the professor of chemistry in the Philadelphia College of Pharmacy from 1842 to 1879, and emeritus professor from 1879 to 1882. He was born in Philadelphia, March 5, 1806, and graduated from the University of Pennsylvania in 1828. Dr. Bridges was a true scientist, unassuming and rather retiring in his disposition. He was nevertheless appreciated and well thought of by members of

the various scientific societies as well as by his former students. Any one looking on the good-natured, pleasant features portrayed in the picture shown in the exhibition would certainly not marvel why what are now gray-haired men still refer feelingly to him as "Daddy Bridges."

Unless his features belie him, he was a man that would appeal particularly to a youth struggling to acquire an education, under difficulties such as none but the drug apprentice of half a century ago had to battle with.

The picture of Dillwyn Parrish, the fifth president of the Philadelphia College of Pharmacy, recalls the assertion made by his contemporaries that he contributed much to give the Philadelphia College a name honored and respected among the teaching institutions of the country.

Alfred B. Taylor, another well-known man, and one that was an active factor in the progress of pharmacy, was born in Philadelphia in 1824, and graduated from the Philadelphia College in 1844. He was a member of the committee sent to New York in 1851 and was made secretary of that meeting. Next year he was made treasurer of the permanent organization and served two years.

Mr. Taylor was an active member of the Philadelphia College or Pharmacy, acting as its recording and later as corresponding secretary for a period of thirty-six years. He was a member of the Pharmacopœial Revision Committees of 1860, 1870, 1880 and 1890, and in the latter two decades was the chairman of the College Committee on Revision.

Mr. Taylor's contributions to pharmaceutical literature, through the AMERICAN JOURNAL OF PHARMACY, were numerous, and he is generally recognized as having been one of the pharmaceutical masters of his time.

Perhaps no one individual permeated the exhibition as thoroughly as John Michael Maisch, who, though born in Germany (1831), was thoroughly American in his ideas and ideals.

Not the least interesting of the exhibits with which his name was connected were the collections of crude drugs from his private cabinet, an object-lesson of the care and work he devoted to properly illustrate his lectures.

A collection of active principles of plant drugs bore evidence the amount of original work that Professor Maisch devoted to the

study of this branch of materia medica. A review of the numerous and varied exhibits with which his name was connected will readily convince any one that he did more than any one other individual to secure for professional pharmacists of this country recognition and respect abroad.

How successful he was in gaining recognition of the very excellent and original work that he personally did, was evidenced by the many testimonials from all quarters of the civilized world that were included in this exhibition. These included honorary membership certificates from scientific societies in Australia, Mexico, England, Belgium, Germany and Switzerland; not the least among these honorary recognitions being the Hanbury gold medal for original research, which was awarded to Professor Maisch in 1893, just shortly before he died.

Another name that deserves particular attention is that of Dr. Edward R. Squibb, a life-long friend of Professor Procter. Dr. Squibb was born in Wilmington, Del., July 4, 1819, and graduated from Jefferson Medical College in 1845. He entered the navy as physician, but later devoted his time to laboratory work and the manufacture of medicinal preparations.

He was a voluminous writer, his contributions to the *AMERICAN JOURNAL OF PHARMACY* alone numbering upwards of a hundred.

Besides this there are many articles published in the proceedings of the American Pharmaceutical Association and also in the pamphlets published by his own firm called *An Ephemeris*.

The neatness, care and originality of Dr. Squibb were well exemplified in the exhibition by several interleaved copies of the U.S.P. that he had used to put down notes and impressions.

There were also in this exhibition a large assay balance and a binocular microscope which were as perfect, clean and in as good order as though fresh from the manufacturer or maker.

Dr. Squibb's mechanical ability was generally recognized, and was only equaled by the liberality with which he allowed competitors to share in the successes of his fertile brain. His death, which occurred October 25, 1900, is of such recent occurrence that all will still recall the feeling of loss it occasioned.

One other name, without which even a most cursory review of the advance in pharmacy would not be complete, is that of Chas. Rice. This unassuming, hard-working and whole-souled man was



born in Austria in 1841, and came to this country during the Civil War. He entered the navy as hospital steward, and later he became assistant to John Frey, apothecary at Bellevue Hospital, New York. After the death of Mr. Frey, Mr. Rice was made apothecary, and later chemist to the Department of Charities and Corrections.

Charles Rice was of a retiring disposition but of sterling character, as is evidenced by all who ever came in contact with him. He was active in the affairs of the New York College of Pharmacy and also the American Pharmaceutical Association. His most valuable and permanent work for the advancement of American pharmacy, however, was done as chairman of the Pharmacopœial Revision Committee.

It was he who made the U.S.P. a book that we can justly say compares favorably with any of its contemporaries. He died in Bellevue Hospital, May 3, 1901, honored and respected by all who knew him. He left behind him a record that will be difficult to equal, and one for which American pharmacists owe his memory a debt that will be difficult to repay.

If this brief and imperfect résumé of the thoughts that were awakened by the recent exhibition will induce some one more able than the writer to take up the subject and give to these pioneers and leaders even a meagre portion of the recognition that is due them, these lines will not have been penned in vain.

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## PRE-HISTORIC PHARMACY IN AMERICA.<sup>1</sup>

BY JOHN URI LLOYD.

The poet Longfellow is reputed to have been visited by an English traveler who said, "Your country, sir, is so awfully big and new one cannot see it in an age. Then, sir, there are no castles, no ruins to tell of old times."

Whether this story is fact or not, the expression voices the views of the majority of Europeans and I fear Americans as well. As one reared from childhood among pre-historic mounds and man-made relics that speak of an American antiquity that is voiceless in its

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<sup>1</sup> American Pharmaceutical Association, Philadelphia, 1902.

backward touches, I cannot but resent such groundless words. As one whose after-life was passed in connection with explorations and excavations among these mounds and relics of primitive man from which come no record concerning their creators, I cannot but offer a feeble protest. In boyhood days I wandered amid the burial places of a long-lost people. From the freshly washed gravel banks, deep in Kentucky soil, I collected shell-made pottery and utensils such as Indian tradition knew nothing about. And as I look back and ponder over such unappreciated antiquarian riches once at my command but now lost forever, I wonder how any thoughtful man can consider America as a country just opened up to them.

Grant to the so-called "Old World" all its marvelous antiquarian riches in stone and bronze, gold and precious gems, and yet we have American monuments as a heritage of the past that possess a charm as touchingly pathetic as are the tracings of dead civilizations in other lands.

To pharmacists in particular is this study of these ancient remains significant, for we find typified therein the fact that nations who lived and died and left no cry, word or page of print to tell their story, were master workmen with the mortar and pestle.

But to study these relics we must pass from well-known Eastern American antiquities, such as the Mound Builders left in profusion in all this great Central West. We must pass the shell monuments of Florida and the connected chains of mounds that stretch from the mouth of the Mississippi to near the Dominion of Canada. This great region, even as far eastward as the Atlantic shore, is thickly dotted with the remains of a form of civilization that gives no other record of itself than upbuilt mounds of mud and heaps of shell, and utensils such as very primitive people use for self-existence.

Turn from this forgotten people to the great Southwest, that land so recently carved out of the so-called wilderness which in our boyhood was defined as a part of the Great American Desert. A marvelous scene presents itself. Behold! this is not a new land. New to modern man it may be, but nevertheless a country literally dotted with villages and houses, a land rich in habitations of forgotten races. "Unexplored territory" has this been called but recently, this country that carries in itself lingering evidences of man's antiquated handiwork sufficient in themselves to astound one

who stands amid its ruins. Silent villages and abodes by the thousands are here, carved avenues in solid rock, stone-built houses standing as if deserted but recently. And yet back again are hillocks that, built in dimmer distances, show where in preceding ages buildings have crumbled into dust in this arid atmosphere that dries, and decay is unknown. A section of this land as large as a mighty European empire was once covered with lava. Through it peep the ruins of stone houses whose builders left no cry to tell of that seismic convulsion, perhaps periods of convulsion. Man dare not conjecture its location in the centuries lost to time. Here in this New World's oldness are dwellings that astound us even to-day, a single stone-built house covering five acres, with fragments of its walls yet standing, five stories high, over two hundred rooms on the ground floor.<sup>1</sup> Here are chains of dwellings cut into solid stone cliffs and perpendicular canyon sides practically inaccessible now to man. And in the desert afar stand deserted villages where to-day the explorer must carry water to drink and needs be careful, too, that his supply does not give out, for in those sunburned houses of the desert once teeming with life no drop of water is to be found. Thousands of abodes and villages in cliff and desert and valley, from Utah and Colorado in the north, reach down into Mexico and Central America, where deserted pyramids and ruins of great temples abound. Silent are one and all. Their human records are as hoary puzzles as is the Ohio mound that stands on the height near where these lines are written.

Of the ruins of the *old* world we hear much. Much that is tangible history have their people left to tell their story. But the ruins of this so-called new world, from Atlantic to Pacific, from Alaska to South America, rest in absolute pre-historic darkness. No written word, no voice, no tradition, no legend, no mythological line in stone or papyrus to say aught concerning the lives that came and went in those great tragedies played in time lost to man.

From out this fascinating southwest land, covered with its relics of pottery, baskets, stone implements, and such, come down to us pharmacists the link that binds us professionally to these silenced nations. A profusion of mortars and pestles, granite, lava and sandstone, litter their deserted habitations. Some of these mortars

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<sup>1</sup> Records of the last.

are of prodigious size and show the effects of what seem to be ages of pestle toil. These were food grinders, and their owners must have been expert knights of the pestle, beyond compare. Other mortars, as for example, these exhibited herewith, are very small and needs must have been used for concocting arrow poisons and medicines. Grading up from little ones, such as those before us, the mortars of the Cliff Builder grow to a dished cavity in the adjacent mountain of lava.

The pestles are a study in themselves, varying as they do in size and shape, in accordance with the dish of the mortar bowl and the use to be made of the utensil. These, as shown by the specimens herewith presented, some of them made of the hardest lava and yet much worn by use, exhibit peculiarities that puzzle one who studies them with thoughtful care. Accept that the people who made and used them were masters of the utensils that give us our professional emblem, and we do them justice only. Indeed, we must award them an exalted position in our art, for they teach us lessons concerning the pestle's form, which with us is one common pattern, but with them varied both as to texture and model.

But I must not take your time by details that space will not permit. Possibly, if the subject is important enough to others, I may sometimes present the study of this subject in which I am now involved with the utmost charm to myself.

Be it enough to-day to bring these specimens of mortars and pestles, and say this, *our* semi-centennial is but a leaf in Time's great volume if it be contrasted with the vanished centennials of our American brethren whose mortars and pestles are before us. All that is left to speak of their celebrations and jubilee gatherings is locked in conjecture such as comes from out the painted and the dazzling desert, carved canyon cliffs, and homes smothering in dust and lava. The stony record of their acts is before us, but yet the book of their lives must needs be forever closed.



## REPORT OF COMMITTEE ON ACQUIREMENT OF THE DRUG HABIT.<sup>1</sup>

BY H. P. HYNSON, Chairman.

Viewed from a distance, the making of this report—like many a task, many a difficulty—seemed small indeed, but upon nearer approach it has, in the minds of your committeemen, become stupendous.

The duty of the committee was not well defined by the resolution creating it, nor is the specific purpose for which we were appointed, even yet, quite clearly shown.

That habits are formed for the use of certain drugs is a fact so well known to us all as to need no further proving; that such habits are injurious to the health, morals and general well-being of the habitues is quite well established. A discussion, therefore, of these two points is totally unnecessary. This positive knowledge regarding the existence and effects of the drug habit assures us that the personal knowledge of the individual pharmacist, touching other points connected with this awful curse, if fully and truthfully valued, will force upon the conscientious conclusions that will win from them a ready recognition of their responsibilities.

This personal knowledge, this individual experience, entails a responsibility and an accounting far more exacting than any that can be placed upon you by the efforts of this committee. It is folly for any one to say he knows nothing of this matter because organized investigation has not been made, or because statistics have not been furnished. The experience of one is the experience of the multitude, and no life is so singular as to have carried its owner even a little distance along the way without presenting much the same scenes that have been clearly viewed by the many. It will be becoming, therefore, while further discussing this subject, for the individual to lend the help of his experience and the force of his real knowledge.

In addition to this there are several questions which your committee thinks it may assist in answering, viz :

- (1) Is the use of habit-forming drugs unduly increasing?
- (2) What is the probable number of habitues?

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<sup>1</sup> Read at the meeting of the American Pharmaceutical Association, September, 1902.

(3) Is there danger in some of our newer drugs and popular remedies?

(4) To what comparative extent are the several drugs and preparations used by habitues?

(5) What is the responsibility of pharmacists in the matter?

(6) What can be done by this section and this association to lessen the evil?

To the first question nearly all of us from personal observation will give a decidedly affirmative answer. This opinion will be, we think, supported by the very best authority—by reports from the United States Treasury Department. Believing that all habit-forming drugs are imported into this country either in crude or manufactured form, your committee has thought that data of this kind would afford the simplest and surest means of answering the question.

Through the kindness of Col. W. A. Love, Secretary to the Board of Trade, Baltimore, and the courtesy of Chief of the Bureau of Statistics, O. P. Austin, we are able to give a very accurate and complete report of the importations of opium and coca with their derivatives for the last five years.

## IMPORTATIONS.

DATE.	QUANTITIES.			VALUES.					TOTALS.	
	Opium, Medicinal.	Opium, Smoking.	Morphia and Salts.	Opium, Medicinal.	Opium, Smoking.	Morphia and Salts.	Coca Leaves.	Cocaine and Salts.	Opium and Morphia.	Coca and Cocaine.
	Lbs.	Lbs.	Oz.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.
1898 . . .	72,287	117,298	25,791	162,652	791,379	35,659	53,752	59,660	989,690	113,412
1899 . . .	343,283	127,082	13,081	833,751	837,456	35,357	28,388	40,141	1,706,564	68,529
1900 . . .	537,004	129,336	26,208	1,137,762	938,524	75,274	591	112,375	2,151,560	112,966
1901 . . .	491,448	139,519	50,819	1,030,209	1,141,518	147,517	483	176,948	2,319,234	177,421
1902 . . .	548,674	163,442	38,002	1,262,369	1,190,493	96,559		254,704	2,549,421	254,704

It should be noticed that where there is a decrease of the derivative there is a corresponding larger increase in the crude product and *vice versa*, showing, also, the decrease in manufacture of cocaine and the increase of morphine manufactured in the United States. The increase in population in the last five years has been 10 per

cent. A careful investigation among physicians assures us that the legitimate use of cocaine has not increased, since its greater use in general surgery is offset by a more careful use in nose and throat work and in general practice. Because of its now known dangerous character it is, of late, seldom ordered in a prescription to be handled by the patient. The use of cocaine in operative surgery and the relief of pain by the advances in surgery largely tend to lessen the legitimate use of morphine. The prices of these products vary but little from what they were in 1898, so that the increase of over 400 per cent. in the imports of cocaine is very significant; while the increase of nearly 500 per cent. in the quantities and over 600 per cent. in the values of opium and morphine is simply startling.

As this report is being prepared, a despatch comes from San Francisco announcing that over \$1,000,000 worth of opium has just reached that port of entry in one cargo. If true, the receipts for the next year will be unprecedentedly foreboding.

That it might, in a measure, answer some of the other questions, your committee has thought wise to send out return postal cards to a number of pharmacists and physicians in different localities, as follows:

AMERICAN PHARMACEUTICAL ASSOCIATION.

Special Committee on the Question of the Acquirement of the Drug Habit.

DEAR SIR: As a member of the above committee I earnestly beg your prompt co-operation. Kindly fill out the blanks on the attached return-card, which you will please mail.

Should you prefer not to be known in the report, the card may be mailed without your signature; please give the matter your serious attention, however, and make your report as accurate and complete as possible.

ON THE QUESTION OF THE ACQUIREMENT OF THE DRUG HABIT.

How many persons do you know who have a drug habit?

Have you noticed a seemingly unwarranted use of sulfonal and trional?

Do you believe habits are formed for the popular headache remedies?

How many persons do you know who have a habit for the follow-

ing: Opium (gum), laudanum (including deod. tr. and McMunn's elixir), paregoric, morphine (including hypodermic use), cocaine, trional, sulfonal, headache cures?

Four hundred were sent to pharmacists in New York and Brooklyn, 250 to pharmacists and physicians in Philadelphia, 100 to pharmacists in Baltimore, 100 to physicians in Baltimore, 50 to pharmacists in towns of Pennsylvania and New Jersey, with results given in following table:

	Towns.	Philadelphia.	Baltimore.	New York.	Pharmacists.	Physicians.	Averages.
1 Percentage of those to whom cards were sent reporting . . . . .	50	36	22	21	22	16	26
2 Average number of habitues known to each person reporting . . . . .	7	3	5	5	4	6	5
3 Percentage reporting an unwarranted use of trional and sulfonal . . . . .	8	12	27	14	19	33	18
4 Percentage reporting no unwarranted use of trional and sulfonal . . . . .	92	68	53	70	50	57	66
5 Percentage not reporting on sulfonal and trional . . . . .	0	20	20	16	31	10	16
6 Percentage reporting a belief that habits are formed for headache cures . . . . .	50	24	70	42	54	90	57
7 Percentage reporting any unbelief that habits are formed for headache cures . . . . .	42	60	10	43	14	1	28
8 Percentage not reporting on headache cures . . . . .	8	16	20	15	32	1	15
9 Percentage of habitues using gum opium . . . . .	20	2	7	8	6	7	8
10 Percentage of habitues using laudanum . . . . .	32	17	15	11	20	9	17
11 Percentage of habitues using paregoric . . . . .	4	15	10	9	9	10	9
12 Percentage of habitues using morphine . . . . .	50	18	20	25	18	30	26
13 Percentage of habitues using cocaine . . . . .	35	10	11	18	6	13	15
14 Percentage of habitues using trional . . . . .	17	2	3	4	2	4	5
15 Percentage of habitues using sulfonal . . . . .	16	1	2	3	0	3	4
16 Percentage of habitues using headache cures . . . . .	7	19	28	22	30	25	21

The responses were better than is usual from such efforts which have always proven to be the most effective for securing statistics. We hereby thank and commend all those who were kind enough to respond; the attention is highly appreciated by the committee. Although several of our kind friends advised us that it was "a poor way to get such information" they did not suggest any better plan,



and while we agree with them that those who could give the most valuable information would be the last to offer it, we believe the results will prove interesting and be of some value.

From the reports made, and because "those who knew the least said the most," and supported by two commendably frank gentlemen who had been in favorable positions to know—one in the "tenderloin" of Philadelphia, the other in a "peculiar locality" of New York, and who reported habitues by the "hundred and more,"—we believe it is quite safe to estimate that at least five different unfortunates of this class are known to every pharmacist, making at least 200,000 in this country, or about three to every 1,000 of our population.

The use of cocaine by unfortunate women generally and by negroes in certain parts of the country is simply appalling. No idea of this can be had unless personally investigated. The police officers of these questionable districts tell us that the habitues are made madly wild by cocaine, which they have no difficulty at all in buying, it sometimes being peddled around from door to door, but always adulterated with acetanilid. Touching this special phase of the practice, we are allowed to quote the two correspondents to whom we have referred in full. One reports over two hundred habitues, 2 using opium, 5 using laudanum, 100 cocaine, 100 morphine, 20 trional, 5 sulfonal. He writes: "Being in a peculiar neighborhood I find the above-mentioned drugs abused to an awful extent. Very few care to better themselves if it were possible."

Another pharmacist writes interestingly as follows: "I spent a few months in a pharmacy located in what is known as the 'tenderloin district' in this city. From my personal observation I can say that the number of men and women, in the prime of life, addicted to the laudanum, paregoric, morphine and cocaine habits is appalling.

"Cocaine, of which the muriate is generally sold, is dispensed in crystals and also in solution, as ordered by the customer, and is used by the fiend by mouth and hypodermically. A considerable amount of cocaine is also disposed of in the form of catarrh snuff; the buyers of this article, being acquainted with the nature of it, buy it to get the desired effect.

"One case, in particular, that came under my notice is a young man, I should judge not over thirty years of age, whose limbs were

literally covered with marks from the hypodermic needle. Laudanum sold to fiends is, as a rule, a 50 per cent. preparation, *i.e.*, tincture of opium diluted with an equal volume of diluted alcohol and colored with caramel.

"The amount of paregoric sold in the 'tenderloin' is comparatively small."

All this in spite of a friend who writes us, "some people think a flea is an elephant; there is not one person in a thousand who has a drug habit." Three to one thousand was the exact number, with pronounced habits, committed to one of our city jails during the last two years. The comparative extent to which the several drugs are used is given in the table. It is only necessary, in this connection, to call attention to the fact that quite a percentage of pharmacists and physicians are of the opinion that habits are formed for sulfonal, trional and the popular headache remedies—an amply sufficient number to warrant a thorough investigation of this particular part of the subject, and to suggest caution in the use of these products.

It is not the opinion of this committee that narcotics are largely used in headache cures, nor do we believe seduction comes from the caffeine or the acetanilid alone, but to the combination of these, or a product of the combination. Preparations containing caffeine and potassium bromide and no acetanilid do not appear to produce the pleasantly stimulating effect that the addition of the latter gives. All this offers another subject worthy of investigation.

Besides the drugs and preparations listed, habits were reported for chloroform, ether, bromidia and several brands of cartarrh snuff. Our correspondents, in considerable number, condemn these snuffs as being extremely vicious. They have no doubt that they contain cocaine, and believe their sale should be suppressed. Fear is also expressed that the danger of continuing the use of suppositories containing opium or morphine is often overlooked. Besides the information to which we have already referred, we have consulted police officers, jail physicians and eminent specialists in nervous and mental diseases, physicians to insane asylums and sanatoriums, and they all unite in declaring the abuse of narcotic drugs to be on the increase, with results indescribably bad. Much of the insanity and nervous derangement prevalent is noticeably due to the drug habit and crime is often directly traceable to its impulses. Opium and

cocaine are much more brutalizing than is alcohol, with the additional horror of steady and certain progress and almost absolute absence of reform.

With the exception of proprietary and patent preparations containing these drugs, and the opium for smoking, these drugs are entirely in the control of the drug trade as represented by jobber, manufacturer and dispenser. The responsibility thus resting is frankly acknowledged by many honorable and manly pharmacists, greatly to their credit. Many of our correspondents—in fact, the large majority—were jealous of their reputations in this regard, and boldly declared that they were not and could not be made parties to this degradation. Pharmacy is proud of these, and pharmacy honors them. How far the responsibility of jobber and manufacturer extends is not yet settled, but when they know, as they must know, that they, too, are pandering to this most unfortunate, this man-destroying appetite, they must, indeed, have seared consciences to continue to supply this unwarranted demand without protest. Yet the greater responsibility, the responsibility for their sale, rests largely with registered pharmacists, who not only have control, but discretionary control. This discretion applies even to orders from physicians and their prescriptions. In no possible manner can a pharmacist be compelled to sell these drugs if he deems, with good reason, their use to be injurious to the party purchasing. The responsibility, then, becomes a sacred obligation, and the excuse so often made, "If I don't sell him, some one else will," is as cowardly as it is specious. The responsibility is upon us, and we must meet it or go down. If asked what can be done? we may answer, Our level best; that's all.

First, this section and this Association should direct their best efforts towards the absolute suppression of the incoming of opium for smoking. If the Chinaman cannot get along without his "dope," we can get along without him. The great increase in the quantity of this special kind of opium proves one of two things, or both: Either our exclusion laws are being violated, or the smoking of opium is largely practised by others than Chinese.

Next, this section and this Association should assist in securing State legislation upon the subject. Through the various State Associations and with the aid of medical bodies every State legislature should be induced to pass a uniform law carefully prepared by this Association.

Thirdly, by rule or order, all persons persistently trading in narcotics to be used by drug habitues should be excluded from pharmaceutical brotherhood, especially from this Association's membership, and should be ostracized by our profession as Law excludes the defaulter and Medicine disowns the abortionist.

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ON THE RECOGNITION OF SYNTHETIC CHEMICALS IN  
THE COMING EDITION OF THE UNITED STATES  
PHARMACOPŒIA.<sup>1</sup>

BY M. I. WILBERT,

Apothecary at the German Hospital, Philadelphia.

The present Pharmacopœia Revision Committee has several problems before it that will require a considerable amount of thought, ingenuity and far-sightedness to solve. Not the least among these problems is the question of how much and how to recognize the host of the so-called newer remedies. This is especially true in view of the fact that many of these new remedies conform with one section of the committee's instructions, as given by the national convention, while they are diametrically opposed to the clause relating to proprietary rights.

It will be remembered that the national convention of 1900, for revising the United States Pharmacopœia according to the general principles that were adopted for guiding the revision committee, allows the admission of "any synthetized product of definite composition which is in common use by the medical profession, the identity, purity, or strength of which can be determined." These instructions, however, also say that "No compound or mixture shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary or patent rights."

These two sentences, while carefully worded, nevertheless admit of a very wide difference of opinion in their interpretation.

In view of the pressure that will probably be brought to bear on the revision committee for recognition from various sources, it will be quite proper to inquire into the present status of this class of

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<sup>1</sup> Read at the Pennsylvania Pharmaceutical Association, June, 1902.



compounds, the conditions or causes that have made them popular, and also reflect for a moment on their real value by comparing them with some of the official drugs.

That this whole class of proprietary or patented remedies can hardly be considered as an unmixed blessing, is readily demonstrated by the fact that every pharmacy has, in the prescription department, one or more shelves that may be designated as "a graveyard for proprietary medicines." If you will just allow the contents of your own waste-stock shelves to pass before your mind's eye, you will recall many a half-filled bottle, the contents of which, at the present time, is absolutely worthless. Some of these remedies were short-lived and never very popular; others, you will remember, were, in their day, considered as permanent additions to the *materia medica*; for one reason or another they were popular for a considerable length of time, then their popularity gradually began to wane, and to-day they are but a memory.

While it is true that many of these preparations now found on the dead-stock shelves were simple mixtures put together with a variable amount of skill and ingenuity, still, a fair percentage of them were, or were supposed to be, chemical products, and were the outcome or result of a considerable amount of experimentation and skill.

Chemicals and chemical combinations are, of course, the substances that the revision committee will be called on to consider with a view of incorporating them in the text of the coming pharmacopœia. We can eliminate, then, all galenical preparations or mixtures, the composition or manufacture of which is usually kept secret, and confine our inquiry or remarks to such products of the chemical laboratory as will come clearly within the initial clause of the revision committee's instructions.

Let us reflect for a few moments on the methods that are used in launching one of these new chemical substances on the drug market. To begin with, the composition or properties of the substance itself are of much less importance than the acquirement of an energetic and efficient business manager.

Having a compound and a business manager, the next step is to introduce the new remedy to a number of prominent physicians, preferably those connected with teaching institutions or hospitals. For this purpose the service of an energetic agent is secured, whose business it is to visit the different physicians for the purpose of

making them acquainted with the wonderful possibilities of the new drug. This agent usually has a plausible tale of the great efficiency of, let us say, a methyl modification of a propyl-ethyl combination. Quoting learned professors, he is able to demonstrate how this very combination has been foreshadowed by the crude attempts of other manufacturing concerns. He also tells of how able scientists have for years been experimenting with a view of obtaining this same identical chemical, but that it was reserved for their chief chemist, who, after years of experimenting, and the expenditure of untold sums of money, had finally perfected a method of combining the necessary ingredients and producing the new compound.

The agent's tale is a plausible one, and, being liberally interspersed with quotations from eminent authorities in different lines of investigation, is usually listened to with more or less attention. Following this comes the offer to supply the physician with liberal samples for use in his practice. The average doctor being quite willing to try something new, readily acquiesces, and consents to give the new remedy a fair trial, with a view of reporting the results. The new drug being applicable in a great variety of physiological indications, is, of course, used more or less indiscriminately with most favorable results. Without giving the natural recuperative powers of the animal organism any of the credit, these results are collected and elaborated into a report of cases that is subsequently published in one of the current medical journals. Later the report is reprinted by the manufacturer, and thousands of copies are sent broadcast through the length and breadth of the land.

In addition to this system of personal solicitation for so-called "scientific experimentation for publication," the manufacturer usually occupies two or more pages of advertising space, in a dozen or more medical journals. In addition to, or in consideration of, occupying this amount of space the new remedy is given numerous reading notices in the scientific or news columns of the journal.

As an illustration of the influence or value of advertising, let us consider the case of one of the patented and trade-marked synthetics, the patent on which is about expiring. Some three years ago the manufacturers discontinued to advertise, with the result that a drug that three or four years ago was considered the most valuable addition to the *materia medica* is to-day almost forgotten. The decline in the popularity of this particular drug is well shown

in the statistics published by the United States Treasury Department. According to the list of Imports for Consumption, the value of the imported chemical in 1899 was \$7,616; in 1900 it was \$3,893, and in 1901 this had further decreased to \$1,125. This is further corroborated by personal experience and inquiry among a number of pharmacists, all of whom had noticed the gradual but certain disappearance of the popularity of this remedy.

Another interesting fact with this particular drug, as with many of the imported chemicals, is that the actual value, sworn to by the importers, is but a fraction of the price charged the consumer in this country. This difference, however, cannot by any means be considered as profit, as a very large amount of it is expended in the liberal advertising mentioned above.

Another point of view of the artificial demand that is created for many new chemicals by means of skilful advertising may be had by comparing the usefulness of any of the trade-marked chemicals with the official drugs and chemicals, notably acetanilid and salicylic acid. It is safe to say that there is not a single patented chemical on the market at the present time that promises to stand the test of time for applicability and usefulness so well as these two drugs; but, despite this fact, a pound of either of these chemicals may be purchased for less than we can get an ounce of a trade-marked and patented coal-tar chemical.

There is one other phase of this question that should not be overlooked, and that is the possibility of professional debasement by the monetary consideration. In speaking of the introduction of a new remedy, we referred to the manufacturer supplying the physician with samples, with a view of having the physiological action of the new compound tested in actual practice, and incidentally having a source of reference articles on which to base his future advertising. While this in itself is perhaps not above reproach, the offer that has been made by several manufacturers to compensate the physician for the time he must necessarily give to following out these experiments and writing the necessary articles, is, to say the least, offering something in the nature of a bribe.

It is probable, of course, that so far none of these offers have been seriously considered, and certainly none have been accepted; for who has ever seen a signed article in which the author admits that the time he has devoted to writing it has been paid for by the

manufacturer of the remedy he is extolling? What is true, however, is that physicians are much more willing to report their successes than their failures with new remedies. This is evidenced in the ultimate failure of hundreds of remedies, despite the fact that nothing but favorable reports on them can be found in the current medical journals.

It will, of course, be difficult to demonstrate to every one that but few, if any, of these patented chemicals have had anything but an artificial popularity; this, in turn, having been created by liberal advertising and the publication of premature or doubtful observations.

There is, however, one serious objection to the recognition of any of these patented remedies, and that is the proprietary right that is vested in the trade-marked name.

The nature and possibilities of a protection of this kind are illustrated in the reports that are being published in the German pharmaceutical journals. As is well known, the last edition of the German Pharmacopœia included a number of the newer remedies, either under their chemical titles or by some new non trade-marked name; it did, however, include the trade-marked name as a synonym. The patents on one or more of these preparations having expired, several firms began their manufacture, marketing them by their official title, and at less than half the price of the trade-marked article.

The apothecary buying this new product and dispensing it on all prescriptions that called for the chemical, irrespective of the name, soon found that he had made himself liable to all the dire consequences of transgressing the law. The practical lesson that the German pharmacist learned by his little experiment was that he could substitute the synonym for the official title, but that the official title and all it called for did not protect him in case the particular drug had been called for by the synonym.

This is, of course, but an evident question of common law, the principle of which has been repeatedly demonstrated.

The proper solution of this particular problem would appear to be that if it is considered desirable to include the trade-marked chemicals the trade-mark itself should be entirely ignored, and the substance be designated solely by its chemical title, or by some new name, or modification of the chemical title, with the latter as a



synonym. In the light of past experience it is safe to say that under no consideration should any substance be included during the lifetime of the patent, or at least during the period it is being actively advertised.

In conclusion the writer would like to say that a liberal and honest exchange of opinion on the present methods of introducing and selling new remedies may, and undoubtedly will, lead to a closer adherence to accepted codes of ethics, both by the pharmacist as well as the physician. For the latter it will be an incentive to acquire and to practice a system of rational therapeutics, learned from accepted text-books and treatises, instead of depending on the information contained in the advertising matter of manufacturing chemists. For us pharmacists, however, it will be a stimulus to the adherence to and practice of the fundamentals of our profession, as illustrated by the ideals and attainments of such men as Procter, Maisch, Squibb and Rice in our own time and country.

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## COLOGNES AND TOILET WATERS.

BY WILBUR L. SCOVILLE.

It is plainly apparent to even the most superficial observer that a considerable change has taken place in late years in the composition of commercial perfumes and toilet waters. This is due in part to improvements in the quality and variety of the volatile oils used, and to chemical investigations which have made close imitations of some of the more delicate odors possible by artificial means; but it is due even more to better methods of "fixing" the odors in the perfume, and to a decreased use of the animal fixing agents.

The secret of perfumery lies mainly in the choice of the fixing agents, *i. e.*, those bodies which intensify and hold the floral odors. The agents formerly employed were musk, civet and ambergris—all bodies of animal origin, and having a heavy and dull animal odor which is the direct antithesis of a floral fragrance. A free use of these bodies must inevitably mean a perfume which requires a label to tell what it is intended for—to say nothing of what it is. Such was the perfume of a dozen years ago.

To-day there is no evidence that the last of these (ambergris) is being used at all in the newer perfumes, and the other two are

employed very sparingly, if at all. The result is that the newer perfumes possess a fragrance and a fidelity to the flowers that they imitate which is far superior to the older perfumes.

Yet the newer perfume is quite as prominent and lasting as the old, while it is more pleasing. It contains the synthetic odors, with balsams or resinous bodies as fixatives, and employs musk and civet only in the most sparing manner in some of the more sensitive odors.

A distinction should here be made between artificial and synthetic odors. Artificial odors are composed of natural constituents of volatile oils, separated by fractional distillation or other means, and newly combined to produce the desired odor; such are artificial oils of rose, jasmine, tuberose, etc.

Synthetic odors are purely chemical products of definite chemical composition, such as vanillin, heliotropin, terpineol, synthetic oil of bitter almond, etc. The solid (or concrete) synthetic odors are all valuable as fixing agents, and are largely employed as such. Heliotropin, for instance, is one of the most powerful and persistent of fixatives, and, whenever its odor will allow, is employed for this end alone.

But it is for the purpose of drawing attention to the balsams, and particularly benzoin, as a fixing agent for colognes and toilet waters that the present paper is designed.

The practice of using musk in these still prevails widely. It is a mistake. A cologne should be refreshing and invigorating. It has a positive therapeutic value in slow fevers, after surgical operations, etc., when it possesses these qualities. To the feverish patient, weary with long lying in bed and tired of the smell of medicines, and in a room which seems stuffy, though it may not be, the application of a little muskless cologne to the face and hands is at once a bath and a change of atmosphere. Antipyretics may be more necessary in acute fevers, but they can never be so invigorating and cheering.

But musk is depressing, and its use in a cologne in even the minutest quantity will spoil the cologne for such uses. The first effects may be refreshing, but the musk lingers after the brighter odors have disappeared, and a sick patient is pretty sure to feel its effects. Persons in vigorous health will not notice the depressing effects of musk; but when lassitude prevails, these are very unpleasant.

Moreover, it is not a necessity in these toilet accessories, either as a blending or as a fixing agent. Its place is better supplied by benzoin for both purposes.

Only the best variety of benzoin—that known as Siam or vanilla benzoin—is suitable for this use. It costs five or six times as much as the Sumatra or marble benzoin, but the latter has a pungent and coarse quality, and lacks fragrance. The best Siam benzoin is less expensive than musk. It is best employed in tincture made of the strength and by the method of the Pharmacopœia.

#### FORMULAS.

There is so much difference in individual tastes and in the demands of cost that it is not to be expected that any single formula for a class of odors will be accepted as ideal, or any set of formulas regarded as complete.

There is no law in perfumery, but a few general considerations may be made regarding formulas for toilet waters, which will apply in most cases, if not rigidly interpreted.

Every toilet water, like a handkerchief perfume, should have a distinctive odor or quality. This is best secured by means of a few ingredients, carefully selected and of the best quality. A formula which contains a dozen or so of ingredients usually means either that the author employed poor oils and sought to cover the bad qualities of each by a liberal variety of qualifying oils, or that he made mistakes in his first selection for a desired blend and sought to correct them in the same way. The simplest formulas are usually the best, so long as they contain the essentials. But they emphatically demand good materials.

This does not mean that one must pay the highest prices and secure the fanciest brands invariably, but only that a good quality, which can be secured only at a suitable price, is the cheapest in the end.

The quality of the oils is of more consequence than the quality of the alcohol. A lot of nonsense has been written about the necessity of extreme care in the selection of alcohol for perfumes, such as certain kinds requiring alcohol made from grapes, and others demanding extreme purification, etc. A reasonable attention to a good quality of alcohol, even at a slight increase in cost, will always pay, but other things being equal, a good quality of oils in a poor quality

of alcohol will give you better satisfaction than the opposite combination. The unsophisticated public is not composed of exacting connoisseurs, and it does not appreciate extreme care or expense in either particular. A good grade of pharmaceutical alcohol, reasonably free from heavy and lingering foreign odors, will answer practically all the requirements.

Distillation of colognes and toilet waters, so often directed, is another delusion and a snare. It is true that heat will hasten the blending of the oils and the ripening of the perfume, but it will be far better and easier secured by a gentle digestion than by distillation. In fact, distillation of these is more likely to work harm than good.

The problem of catering to the demand for cheap colognes and perfumes calls for a finer discrimination. The demand usually springs from an uncultivated taste, and may mean that the most vigorous odors are desired, such as sandal-wood, rose-geranium, verbena, etc.

These may be employed in place of the softer lavender, rose and neroli oils, or a really nice but cheaper odor may be secured by reducing the oil and alcohol strength. Since alcohol is by far the greatest factor in the expense of toilet waters, a reduction in alcoholic strength means a proportionate reduction in cost. Moreover, odors develop more quickly and stand out more prominently in hydroalcoholic than in alcoholic media, so the reduction of the oils in any of the following formulas to one-half the quantities directed and the use of diluted alcohol as a solvent, with corresponding reductions in the benzoin, will produce odors which appear at first quite as strong as the originals, but whose permanence is lessened.

Perhaps the chief value of the following formulas may lie in the fact that they are here made public for the first time, yet it is hoped that some may find one or more of them of real value. The samples which are submitted will show what may be expected from them by the use of regular commercial grades of materials.

#### COLOGNE.

This resembles closely the popular "Farina" colognes usually sold in sealed packages:

Oil of bergamot	3 iss
Oil of lemon	3 vj



Oil of neroli	3 iv
Oil of orange	3 ij
Oil of rosemary	3 ij
Tincture of benzoin	3 ij
Orange-flower water	3 xij
Alcohol to make 1 gallon.	
This costs \$3.40 per gallon (July prices).	

The predominating odor is that of orange flowers. Other odors may be substituted for this if desired, the rest of the formula remaining as it is. For instance, a

A LILAC WATER OR LILAC COLOGNE

is made by substituting terpineol for the oil of neroli, as follows:

Oil of bergamot	3 iss
Oil of lemon	3 vj
Terpineol	3 iv
Oil of orange	3 ij
Oil of rosemary	3 ij
Tincture of benzoin	3 ij
Water	3 xij
Alcohol to make 1 gallon.	
Cost, \$2.90 per gallon.	

Not an ideal lilac water, but it is suggestive. Or an

ANTISEPTIC COLOGNE,

having some of the fragrance of pine woods, and particularly adapted for spraying a room, may be made with a slight variation, as follows:

Oil of bergamot	3 vj
Oil of orange	3 j
Oil of rosemary	3 j
Eucalyptol	3 ij
Bornyl acetate	3 ss
Tincture of benzoin	3 j
Alcohol	Orss
Water	Oiiss
Cost, \$2.05 per gallon.	

Bornyl acetate is the odorous principle of oil of pine. It is about twenty times as strong as the oil, is much more soluble, and has a delightful fragrance.

The substitution of eucalyptol for oil of lemon increases the anti-septic qualities of this cologne as well as develops the characteristic

pinewoods odor in an improved degree. If a

#### HEADACHE COLOGNE

is desired, the addition of menthol and camphor to the first formula is all that is needed :

Menthol	℥iv
Camphor	℥j
Cologne (first formula)	Cong i
Cost \$3.80 per gallon.	

Some may prefer a larger proportion of menthol ; but don't overlook the fact that too much will irritate the eyes unduly when it is applied to the face and head.

#### LAVENDER WATER.

This article is not as popular as it deserves to be, owing perhaps to variations in lavender oils. No oil is more variable than this, it being listed all the way from 50 cents to \$16 per pound.

The sample was made with an oil costing \$1.65 per pound. A finer oil would not need the oil of orange to soften it.

Oil of lavender	℥iv
Oil of bergamot	℥j
Oil of orange	℥ij
Oil of neroli	℥ss
Cumarin	℥ss
Tincture of benzoin	℥j
Water	Oj
Alcohol	Ovij
Cost \$3.00 per gallon.	

Many formulas direct oil of rose to soften the lavender, but neroli has a much finer effect and makes the lavender more fragrant.

#### FLORIDA WATER

is simply a spiced lavender water. Spicy odors may be added to the foregoing, or the following, which is a little less pronounced in lavender odor, may be preferred :

Oil of lavender	℥iss
Oil of bergamot	℥iss
Oil of orange	℥ss
Oil of neroli	℥ss
Oil of cassia	℥j
Oil of caraway	℥xv
Oil of spearmint	℥xv
Tincture of benzoin	℥j

Water	Oj
Alcohol	Ovij
Cost \$2.90 per gallon.	

BAY RUM.

In spite of the legion of formulas for this article which shower down upon us continually, the so-called "imported" and "distilled" articles still hold a place. While a foreign label and an ugly bottle may have some charm, yet there is a softness and depth about these that the formulas usually fail to reproduce. So the "imported" article may have a real point of excellence.

But it is surprising how well this superior softness can be secured by employing a very little benzoin. It imparts a quality, if used sparingly, that is very agreeable, and that suggests the foreign brands.

The following formula is adopted from the Spiritus Myrciæ of the Pharmacopœia. It is weaker in alcohol and contains the benzoin :

Oil of bay	3vj
Oil of orange	3ss
Oil of pimenta	3ss
Tincture of benzoin	3iv
Powdered orris root	3iss
Water	Oiv
Alcohol	Oiv
Cost about \$1.55 per gallon.	

The powdered orris root is employed chiefly as a clarifying agent.

The use of rum in place of a portion of the alcohol is a well-known improvement, but I have here preferred to let the formula emphasize the effect of the balsam ; so I have not qualified it by the addition of an unknown element in the shape of a variable rum. Use a little good rum in the above formula, and it will be found difficult to distinguish the product from some of the best "imported" brands.

VIOLET WATER.

Courage fails me to attempt to discuss this vague and fickle thing. It contradicts all that was said about the refreshing qualities of a toilet water and the use of musk. It aims to be as *unlike* the flower as possible, hence its diversities are legion. Violet is a delicate odor, but the public wants something vehement and colored green. Why it should be green they do not know, but if it is green they

know what is in the bottle after the label has been washed off. It is the almost numberless variety of odors that pass for "violet" that discourages comment. It would not be mentioned in this paper were it not that the widespread demand must be recognized. This paper might be considered fatally deficient were it ignored.

Violet extracts and waters may be divided into two classes: those made with ionone and those which depend upon a combination of rose, bergamot and sandal-wood for a vague suggestion of violet. The only point of agreement is in the use of sandal-wood and musk. Sandal-wood is prominent in most of the violet perfumes, and some contain quantities of musk (artificial or natural) far above what is commonly employed in perfumes. Plainly, "violet" is not adapted as a refreshing toilet accessory for persons not in vigorous health.

The combinations containing ionone may have a suggestion of the real violet odor. Ionone itself has a delicate odor, and a quality which can only be described as "thin," and it resembles the odor of violets only in part. It needs something to fill it out and give it "body" to become acceptable as a perfume. The most convenient single agent for this purpose is sandal-wood, and the more of this the perfume contains the more certain is the user that "something smells." Ionone, though thin, is very extensible. Doubling the quantity does not double its apparent power. The art of its use lies in properly developing and backing it in a mixture. So almost any of the heavier and more prominent odors can be, and probably is, used in its combinations.

The following resembles, in a general way, a number of commercial violet odors, but it will never be mistaken for a bunch of violets:

Ionone	3 ij
Oil of sandal-wood	3 jv
Oil of neroli	3 j
Oil of bitter almond	m viij
Oil of spearmint	m xv
Heliotropin	3 j
Musk (artificial preferred)	gr. ij
Tincture of civet	3 iv
Water	Oij
Alcohol	Ovj
Cost, about \$4.75 per gallon.	

In some of the popular "violets" the rose odor is very prominent, and combinations with rose are almost as common as ionone mix-



tures. In the cheaper grades rose geranium is used in place of rose, and the following is typical of this class, but the rose odor does not predominate:

Oil of sandal-wood	3iv
Oil of bergamot	3iv
Oil of rose geranium (Algerian)	3ij
Oil of neroli	3j
Oil of bitter almond	m <sub>xv</sub>
Musk (artificial or natural)	gr. j
Tincture of benzoin	3iv
Powdered orris root	3ij
Water	Oijj
Alcohol	Ov
Macerate 30 days and filter. Cost,	
about \$2.20 per gallon.	

The samples are colored with just a trace of green dye—not enough to leave a stain.

Violet, more than any other odor, needs time to develop. Ionone disappears entirely when first added to alcohol, but after a few days it begins to show its presence, and it continues to develop for some time. Most of the published formulas direct excessive quantities of ionone, and the result may be unsatisfactory, while the cost is prohibitive. Oil of orris may be used in place of ionone—using about eight times as much.

The second mixture is, in some respects, so incongruous and contradictory that it, too, needs a number of weeks to blend. Oil of rose (in smaller quantity), in place of oil of rose geranium, will make a softer and more fragrant water.

Finally, remember that all perfumes require time to blend and ripen. Six months should be allowed for blending whenever possible. An economical way of securing a constant stock of well ripened waters is to blend the oils in quantities, one to a dozen years in advance, without alcohol, and then when the cologne or toilet water is wanted, add the proper quantity of oil mixture to the alcohol and water and set in a warm place for three to six weeks. Then it will be found ready for use. (Read at the meeting of the A.Ph.A., September, 1902.)

## REVIEWS AND BIBLIOGRAPHICAL NOTICES.

PRECIS DE MANIPULATIONS DE PHARMACIE. Essai des médicaments  
 Guides pour les travaux pratiques de pharmacie. Par le Dr. E.

Gérard, Professeur agrégé à la faculté de Médecine et de Pharmacie de Lille, Chargé du cours de Pharmacie. A. Strock et Cie. Imprimeurs-Éditeurs, Lyon et Paris.

This interesting little compendium or handbook is divided into four parts. The first is a collection of tests and assay methods for medicines of animal or vegetable origin. The second part comprises tests for galenical preparations. The third is composed of qualitative and quantitative tests for inorganic chemicals. The fourth, comprising 135 out of the total of 308 pages, is devoted to an enumeration of the characteristics of and tests for a number of the chemical substances of organic origin. In this part, in addition to the well-known organic chemicals and alkaloids, we find tests for such chemicals as glycerophosphate of lime, cacodylate of soda, and also a number of the more popular synthetic chemicals like phenacetine, antipyrine and sulfonal.

The contents and style of the book should recommend it particularly to the French student of pharmacy, and even to such of our American students as are familiar with the French language.

M. I. W.

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#### BRITISH PHARMACEUTICAL CONFERENCE.

The thirty-ninth annual meeting of the British Pharmaceutical Conference was held at Dundee, Scotland, from August 11 to 14, 1902.

The following abstracts are made from the very complete reports of the papers and proceedings as published in the current numbers of British Pharmaceutical journals.

*The Address of Welcome* was made by Principal Mackay, of University College, Dundee, who said that the welcome that he had to extend to the delegates referred to the more serious and important work of the conference. Medical education was one of the most important branches of the work at University College, and the work of the Pharmaceutical Conference was one that went forward hand in hand with that of the medical profession. Because the Society and College had many points in common, the members of the former were cordially welcome to the halls of the College. It was earnestly wished that the conference would soon again return to Dundee.

The president expressed the gratitude of the conference for the kind words of welcome.

*Address by the President.* Mr. G. Claridge Druce, Hon. M. A. Oxford. This was devoted to an interesting review of the history and development of Scottish botany. After recounting the work of the early Scotch botanists he devoted considerable time to a plea for the proper recognition of the work done by George Don (1764-1814). The speaker mentioned the names of, and the work done by, a number of botanists that have contributed materially to our knowledge of the fauna and flora of Scotland. After which he enumerated a number of species peculiar to Scotland, giving some suggestions as to their probable origin. In concluding, Mr. Druce deplored the fact that field botany had lost much of its old-time interest for the apothecary, but expressed the hope that in coming years an increasing number of pharmacists would again devote some of their leisure hours to this interesting science, and by recording such facts as nature may reveal to them, do something to explore at least a small portion of that vast forest of the unknown by which we are still surrounded.

After the reading of a cablegram from Professor Remington, who sent "Hearty Greetings," and the subsequent transaction of routine business, including reports of committees,

*The Formulary Committee Report* was submitted by Mr. N. H. Martin, who said that a steady demand for the new edition of the formulary had been maintained. This would indicate that the number of prescribers who accepted the B.P.C. formulary as the standard for the preparations contained in it were on the increase.

The reading of the papers was then proceeded with, the first one being:

*Alkaloidal Stability of Certain Standard Preparations of the Pharmacopæia.*—W. A. Naylor, F.I.C., F.C.S., and C. Huxtable, demonstrate that there is a steady, though slow, depreciation in alkaloidal value of standardized galenical preparations. Of the five preparations that were assayed every month for nine months, the loss varies from 5.66 per cent. for liquid extract of ipecacuanha to 1.33 per cent. for liquid extract of nux vomica.

*Standardized Tinctures and Ipecacuanha Wine of the B.P.*—E. H. Farr, F.C.S., and R. Wright, F.C.S., give the results of a study of a number of commercial samples of tinctures and wine of ipecacu-

anha. The writers conclude that while perfect uniformity does not yet exist, the official processes for standardization have brought about a considerable improvement in the character and potency of these preparations.

*Note on Aromatic Sulphuric Acid.*—Leonhard Dobbin, Ph.G., has examined a number of specimens of aromatic sulphuric acid and found them all to contain sulphovinic acid. As would be expected, he finds that the quantity gradually increased with length of time the acid is kept. The writer also suggests that the rate of formation of sulphovonic acid depends largely on the temperature.

*Chinese Oil of Neroli.*—John C. Umney, F.C.S., and C. T. Bennett describe this oil, which has lately appeared on the English markets. According to the writers, the oil contains 4.79 per cent. of esters, linalyl acetate; 21.41 per cent. of free alcohol, as linalool; 25.17 per cent. total alcohols. The writers are of the opinion that this Chinese oil of neroli cannot replace French oil of neroli, or any of the different varieties of oil of petitgrain as imported into England; nevertheless, the oil has an agreeable and characteristic odor which may be taken advantage of in the making of perfumes and perfumed soaps.

*Olive Oil: Commercial Varieties and the Pharmacopœial Tests.*—John C. Umney, F.C.S., and C. T. Bennett think the official characters and tests for fixed oils are less perfect than they should be. They propose that the official limits for the specific gravity of olive oil should be reduced to read from 915 to 918, at 15° C., and that the Pharmacopœia give tests for solubility and acidity, and also specify the iodine number of the oil.

For detecting cottonseed and sesame oils the tests of Halpen and Trocher, respectively, are proposed.

*Note on Cannabis Indica.*—Thomas Maben, F.C.S., refers to a paper by G. F. Merson, and also records some observations on this same drug that have been made by Mr. H. C. Hamilton, who assays cannabis indica by physiological tests. Maben believes, with Hamilton, that the cannabinal of Wood, Spivey and Easterfield does not represent the active principle of the drug.

*Lecture on Cannabis Indica.*—Professor Marshall gives some interesting details of the collection and general composition of the different commercial forms of cannabis indica found on the market. (See also AM. JOUR. PHAR., 1902, p. 448.)



*The Oxidation and Determination of Uric Acid and Urates.*—J. F. Tocher, F.I.C., F.C.S., gives a process for the conversion of uric acid into urea by chromic anhydride, and the subsequent estimation of the urea with hypobromite solution.

*Aseptic Surgical Shaving Paste.*—Edmund White, B.Sc., F.I.C., gives a formula for a wax emulsion to be used instead of soap lather for shaving:

22· hard paraffine (M. pt. 55° C.), 3· suet, 2· soft soap, and 68· of water are placed in a suitable dish on a water bath, and, when melted, are beaten together until a white emulsion is formed; then shake in gradually 2· tragacanth in powder. When nearly cool add 2· glycerin and 1· oil of lavender.

In use, a small quantity is rubbed over the area to be shaved, and the razor immediately applied.

*Compressed Tablets.*—Edmund White, B.Sc., F.I.C., and R. A. Robinson, Jr., advocate the use of an excipient made by melting one part of oil of theobroma and adding three parts of starch, stir thoroughly, and when uniformly mixed allow to cool.

In use, enough of this preparation is taken to impart a somewhat granular character to the mixture of drugs desired to be made into tablets.

*Liquor Thyroidei.*—Edmund White, B.Sc., F.I.C., suggests that for every 20 grammes of the trimmed and bruised thyroid glands 15 c.c. of glycerin be added and allowed to macerate for twenty-four hours. Strongly express, and make up the desired volume by the addition of equal parts of glycerin and water.

*Tasteless Cascara Preparations.*—Edmund White, B.Sc., F.I.C., and R. A. Robinson, Jr., think the bitterness of cascara is due to anhydride or lactone and suggest that the addition of 5 c.c. of potassium hydroxide solution, or of 7 c.c. of strong solution of ammonia to 100 c.c. of liquid extract of cascara sagrada, with subsequent heating on a water bath, will effectually destroy the bitter taste of cascara without impairing its activity.

*The Education of the Pharmacist.*—Professor Marshall considers the training of pharmaceutical students under three heads: Simple apprenticeship, apprenticeship followed by coaching or cramming, and apprenticeship followed by a collegiate education.

In conclusion, Mr. Marshall said: "The collegiate training of a youth is best done, and in many cases most economically done, before he enters his apprenticeship."

This paper was vigorously discussed and elicited a considerable variance of opinions.

*Toxic Principles of the Coriariæ.*—Prof. C. R. Marshall demonstrates that the various members of the coriariæ, although widely and somewhat sparsely distributed, contain closely allied toxic ingredients.

*Some Examples of Galenical Preparations made on the Retail Scale.*—John H. Thomson calls attention to a number of preparations that may be made profitably, by the retail pharmacist, on a small scale.

*The Official Recognition of Antidiphtheria Serum.*—Thos. Maben, F.C.S., maintains that the use of this serum has passed the experimental stage, and is generally recognized by the medical profession as a remedy of sufficient importance to demand official recognition. He further recommends that the German Pharmacopœial standards and methods of official tests be adopted.

*Liquor Kramerie Concentratus, B.P.*—F. C. J. Bird demonstrates that the official concentrated solution might be improved by the addition of 5 per cent. of alcohol, or better still 10 per cent. of glycerin.

*New Apparatus for Milk Analysis.*—G. D. MacDougald, F.I.C., the Dundee public analyst, describes a new apparatus that is the outcome of repeated attempts to devise a satisfactory apparatus for gravimetric work.

*Bismuth Salts in Mixtures.*—Edmund White, B.Sc., F.I.C., points out that the efficacy of a bismuth mixture depends largely on the state of division of the contained bismuth salt. He recommends the use of a freshly precipitated preparation, and contributes the following formula for:

*Glycerinum Bismuthi Carbonatis.*—Sixty grammes of subnitrate of bismuth are dissolved in a mixture of 40 c.c. of nitric acid and 25 c.c. of water. The resulting solution is then poured into a solution containing 55 grammes of ammonium carbonate in 300 c.c. of water. Collect the precipitate on a calico filter, wash, drain and rub the moist precipitate with enough glycerin to measure 100 c.c. Each 2 c.c. of this mixture is equal to 1 gramme of bismuth subcarbonate.

*Bismuth Citrate and Liquor Bismuthi.*—Wm. Duncan believes that bismuth citrate is really a dibasic acid, having the formula  $H_2BIO_3$ ,  $C_6H_5O_7$ , and calls it bismuthyl citric acid.

*Variations in the Occurrence of Salicin and Salinigrin in Different Willow and Poplar Barks.*—H. A. D. Jowett, D.Sc., and C. E. Potter, B.Sc., have examined a large number of willow and poplar barks and present their results in an interesting and comprehensive paper. In summing up the results of their investigations the writers say: Of the thirty-three samples of willow and poplar bark examined, salinigrin was only found in one—*Salix discolor*, Muhl. The amount of salicin contained in the bark of a willow or a poplar depends not only on the species, but also on the season of the year in which it is collected, the sex of the tree, and possibly other factors.

*Solanum Dulcamara.*—Frederick Davis found the two alkaloids, solanine and solanidine, the glucoside solanein and the bitter principle dulcamarin in fresh specimens of this plant. An examination of commercial solanine appears to indicate that it is a mixture of solanine and solanidine.

*Limits of Reliability of Volumetric Solutions.*—R. C. Cowley and J. P. Catford demonstrate that measurements by burette may vary 0.05 c.c. This would be equal to 0.50 of a solution one-tenth the strength. For this reason, they suggest that processes that require the use of two solutions differing in strength as 1 to 10, should direct that the stronger solution be weighed so as to insure greater accuracy in the ultimate results.

*Volumetric Estimation of Lead Salts.*—R. C. Cowley and J. P. Catford recommend the direct titration of precipitated lead oxalate, as being simple in operation and giving satisfactory results.

*Pharmacy Notes.*—R. Wright gives modified formulas for

(1) *Liquor Bromo Chloral Compositus B.P.C.*—35 sodium bromide, 35 chloral hydrate, 6.5 tincture of cannabis indica, 0.02 hyoscine hydrobromate, 125 syrup of orange, 30 mucilage of acacia, 60 liquid extract of liquorice and distilled water enough to make 500.

(2) *Camphorated Oil.*—Camphor in flower 125 olive oil 500. Place the camphor in a dry bottle, heat the oil to 71° C. and add to the camphor; shake frequently till solution is effected.

*Alcoholic Extracts.*—Wright suggests that an attempt be made to work out a scheme for the standardization of those alcoholic extracts which admit of such treatment.

*The Volumetric Determination of Sodium Phosphate and Arsenate.*—F. R. Dudderidge and J. S. Hill suggest a process for the volu-

metric estimation of the above salts. Using sulphuric acid with methyl orange as an indicator, the process is said to give satisfactory results.

A pleasant diversion of the closing hours of the conference was the presentation to Mr. Taylor, who had served 15 years as Secretary of the B.P.C., of an address and several souvenirs as a reminiscence of the appreciation and good will of the members.

After the election of officers for the ensuing year and the transaction of some routine business, including a vote of thanks to the local committee, the principal of University College and the retiring president, the conference adjourned to meet in Bristol, England, in 1903.

M. I. WILBERT.

#### PHARMACEUTICAL MEETING.<sup>1</sup>

The first of the series of pharmaceutical meetings of the Philadelphia College of Pharmacy, for 1902-1903, was held on Tuesday, October 21, 1902. Mr. Howard B. French, the President of the College, presided.

The first speaker was Dr. A. R. L. Dohme, of Baltimore, who read an interesting paper on "The Writing of a Thesis" (see page 527).

The next paper was entitled "The Apprentice of Former Days—A Reminiscence," by William McIntyre (see page 532). In the discussion of this paper Mr. Evan T. Ellis said that the old-fashioned pharmacist was usually a man of marked personality, and quoted Professor Parrish as saying that a pharmacist was looked upon as a kind of oracle in his neighborhood, and that all kinds of questions were put to him which he was supposed to be able to answer. Professor Remington said in reference to the popular health almanac

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<sup>1</sup> The Committee on Pharmaceutical Meetings desire to state that it is proposed to make the meetings for the season of 1902-1903 as interesting and profitable as those in previous years. An effort will be made this year to limit the time for the reading of papers to twenty minutes, so that ample time will be afforded for discussion. Furthermore, at each meeting special topics for discussion will be presented, which will serve to bring out points of practical and general interest to the retail pharmacist.

The following are the members of the Committee for 1902-1903: Dr. R. V. Mattison, Prof. Joseph P. Remington, Prof. C. B. Lowe, Mr. W. L. Cliffe and Prof. Henry Kraemer.



published by Dr. Hoffmann in 1876-77, to which Mr. McIntyre alluded, that the author published it to replace the various proprietary almanacs, but that he did not realize the amount of money invested in this sort of thing by the proprietors and that his almanacs had consequently failed in their purpose—that of checking the nostrum traffic.

A paper was presented by Mr. M. I. Wilbert on "After-Thoughts on the Historical Exhibition of the American Pharmaceutical Association" (see page 536). The paper was discussed by a number present. C. H. LaWall stated that Daniel B. Smith was a very broad-minded man, and that besides having a drug store he was Professor of Moral Philosophy in Haverford College. Mr. Wilbert said that there was hardly an institution dating back to 1830 with which Daniel B. Smith was not connected. Of these he mentioned the Philadelphia Savings Fund, the Apprentices' Library, etc. Mr. Ellis referred to Prof. Joseph M. Carson as one of the eminent men of his time and one of the most fluent of the earlier lecturers in this College. Professor Remington said that the son of Charles Marshall had endorsed a note making the firm liable, and that this led to Mr. Marshall's failure, and that his daughter Elizabeth, then familiarly known as Betsy Marshall, established a drug store in the parlor of their home, at 56 Chestnut Street, and was so successful in the undertaking as to retrieve the fortune as well as the good name of her father. Mr. French indicated to Mr. Wilbert where the information which he desired in regard to the earlier presidents of the College could be obtained.

A paper on "Tri-basic Sodium Phosphate," by H. B. Eigelberner, owing to the absence of the author, was read by title and referred to the Committee on Publication.

Professor Remington exhibited specimens of two grades of gum arabic which were obtained by Dr. H. C. Wood (see this JOURNAL, 1902, p. 201) from Assouan, Egypt. The gum is collected and spread out on the floors of roofless mud buildings to dry, being occasionally raked over. He also exhibited a sample of senna collected by Dr. Wood from Assouan, which had been brought from the Soudan. Professor Remington also called attention to an improved torsion balance for prescription work; to the Hunter's Sifter, which is a combined mixer and sieve, and also to Day's Clipper Emulsifier. Mr. French said that the latter resembled the bread

mixer which was used in Germany and adopted in this country for mixing other things, including paints.

Before adjourning, a vote of thanks was tendered the speakers for the papers presented.

H. K.

## PHILADELPHIA COLLEGE OF PHARMACY.

### MINUTES OF THE SEMI-ANNUAL MEETING.

The semi-annual meeting of the members of the Philadelphia College of Pharmacy was held in the library, on September 29th. The President, Howard B. French, was in the chair. Twenty-six members were present. The minutes of the meeting, held June 30th, were read and approved. The minutes of the meeting of the Board of Trustees, held June 3d, were read by the Registrar, W. Nelson Stem, and approved as read.

Mr. H. L. Stiles, for the Committee on Meeting of the American Pharmaceutical Association, presented a report of the Jubilee Session held at the College Hall, on September 11th. Prof. Henry Kraemer, for the delegates to the American Pharmaceutical Association, presented a report. A full report has been published in *THE AMERICAN JOURNAL OF PHARMACY*, October, pages 484-526. The report of the Nominating Committee was received and accepted. The thanks of the College were tendered Charles Lippincott & Co., 930 Arch Street, for their liberality in providing and dispensing soda-water at the College during the meeting of the Special Jubilee Session.

Mr. George M. Beringer, Chairman of the Committee on Instruction, called attention to the research work about to be inaugurated by the Carnegie Institution; and after a discussion of the subject it was referred to the President of the College with power to act.

An election for three Trustees being next in order, Messrs. E. M. Boring and E. F. Cook were appointed tellers, who, after a ballot was had, reported the election of George M. Beringer, H. L. Stiles and Joseph W. England to serve as Trustees for the ensuing three years.

C. A. WEIDEMANN, M.D., *Secretary.*